

RIES (E.)

The anatomy of the endometrium





[Reprinted from the AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL for March, 1896.]

## THE ANATOMY OF THE ENDOMETRIUM.

100 STATE STREET, CHICAGO, ILL., January, 1896.

*To the Editor of The American Gynecological and Obstetrical Journal:*

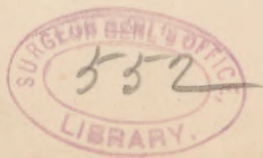
SIR: I have read with much interest the paper of Dr. William R. Pryor on The Anatomy of the Endometrium and the Technique of its Removal by Curettage.

This paper was read before the New York Obstetrical Society and was published in your January number (1896). I am surprised that the part of this paper which relates to curettage and contains nothing new should have called forth so much discussion, while that part which relates to the anatomy, being to a great extent new, should have called forth no discussion at all beyond some expressions of gratitude for the "concise and instructive account of the latest views of the anatomy of the uterine mucosa."

I desire in a few words to raise some questions relative to the allegations in this paper, especially those which relate to the anatomy and physiology of the endometrium. The technique as described is in the main identical with that of other gynecologists; at least, it does not differ so materially as to warrant the expectation of widely differing clinical results.

Had the anatomical and physiological descriptions received their full share in the discussion it is possible that something more definite and tangible than the oracular and enigmatical aphorisms of the paper might have been brought out. We are told of a certain "activity in the absorptives which follows the removal of the uterus"; of "the action of thyroid extract upon the absorptives—directly the reverse of that brought about by the removal of the mass of lymphoid uterus, the effect of hysterectomy upon the progress of phthisis pulmonalis." We are told of "the synchronous development of the thyroid and lymphoid endometrium" as a reason to "class the endometrium among the lymphoid organs."

It would be interesting and new to science to have some information on the nature of this activity of the absorptives which follows



the removal of the uterus; on the nature of the action of the thyroid extract on the absorptives and its direct converse, "brought about by the removal of the mass of lymphoid uterus." The scientific world also would be glad to know something more of the effect of hysterectomy on phthisis pulmonalis. The development of the testicles is also synchronous with that of the thyroid gland; would this be sufficient ground for concluding that the testicle is a lymphoid organ?

Perhaps it would be more judicial to direct this communication less to a criticism of the suppositions and hypotheses and more to a consideration of the positive statements of Dr. Pryor's paper.

We are told that the uterus is guarded by a sphincter muscle; that this sphincter muscle is the cervix; that it is "always present in those animals whose uteri are vertical." Then follows the announcement: "Its anatomy will not be further considered." Perhaps it would have been more to the point to have considered it further or not to have considered it at all. Let me remark in passing that the uterus in man, unless displaced, is not vertical, and that a sphincteric cervix is found in many animals whose uteri are not vertical.

The alleged minute granules in the endometrium have also puzzled other microscopists. The pathologists are waiting for some proof, not to say evidence, of the gradations said to take place in the development of these minute granules into lymphoid cells and granular nucleated corpuscles. It would be interesting, however, to call them "lymphoid cells" upon some evidence and not because they "closely resemble white blood-corpuscles." Does the assumption that connective-tissue cells are lymphoid cells make them so? Does the fact that the endometrium is abundantly supplied with lymph spaces and lymph vessels make it a lymphoid organ? All organs are supplied with lymph spaces and lymphoid cells—some more, some less. To what degree is this supply necessary before it would furnish a basis for designating the organ as lymphoid? Some other organs are as abundantly supplied as the uterus, but they are not called lymphoid.

We are not only told that the endometrium is a lymphoid organ, but we are told that it is "not a mucous membrane." The denial that it is a mucous membrane is apparently based upon the author's assumption that the endometrium has no glands. In place of the word "glands" he uses the words "crypts" and "follicles." Would he call the same structures when they appear in the intestine "glands," or "crypts," or "follicles"? These endometrial structures, when observed through the microscope and when considered in their physio-

logical relations, are regarded as glands by every other recognized authority in the civilized world.

It is not correct, as declared by the author, that the lymphatic channels "unite to pass between the layers of the broad ligament." They pass without uniting. The statement that "below the os internum they extend beneath the broad ligaments and end in lymphatic glands over the obturator foramina" needs revision. The following statement—that "the capillaries penetrate as far as the epithelial layer on the surface"—was probably not intended to be regarded as new or extraordinary.

The description of the uterus during menstruation contains some astonishing statements. One is struck with the literary facility with which "new capillaries are formed" and "the epithelium melts off." The theory of the production of new epithelium from "embryonic lymphoid cells" is so beautiful and simple that it is a pity it is not true. Observe the wonderful transition from the embryonic lymphoid cells to "cuboidal, to cylindrical, to ciliated cylindrical, epithelium." Let us venture to hope that science will soon be favored with a more detailed description of the methods of investigation which were employed in making these remarkable discoveries. Is it possible that the change of connective-tissue cells belonging to the mesoblast to epithelial cells which belong to the endoblast can be explained without reconstructing all of our ideas on cell development? Hitherto such a transition has been regarded as impossible.

The earlier work of Bossi which the doctor cites is, I suppose, the one published in 1891-'92. This work contains no trace of any indorsement of the author's views.

The statement that "the union of a number of lymphoid cells" is destined "to form a decidual cell" is so extraordinary that it is not difficult to consider it a misprint.

The physiology of this paper is not only speculative but rests upon an anatomical basis yet to be proved. The question, therefore, "whether we shall place the endometrium among those lymphoid organs which are engaged in the formation of blood or those more nearly allied to the absorptive system" is not answered. The question, however, since it relates to incorrect assumptions, is irrelevant. The subject is not rendered more luminous by the mere mention of "the observation of His upon the parablastic tissues." These observations were made on the embryo, and furnish no basis for conclusions relative to the physiology of the adult endometrium.

The absence of any statement to the contrary leads us to infer

that the author has himself worked out and developed these theories. In this field he has at least two predecessors in the United States, neither one of whom has succeeded in establishing the same theories.

The author concludes the anatomical part of his paper as follows : "Upon the facts as I present them to you is based my method of curettage."

This is the most astonishing statement of the entire essay. He bases his method of curettage and the use of his "form of iodoform gauze" upon his anatomy and physiology of the endometrium. Permit me to remark that pathological more than physiological conditions furnish a basis for treatment. Pathology in this paper is conspicuous by its absence. I fail to grasp the relation which this paper implies between ideas on the anatomy and physiology of the endometrium and its removal by curettage.

The author has begged his audience to be "as critically disposed as they may." I refrain, however, from criticism in the hope that the author will give some substantial evidence of the accuracy of his statements.

EMIL RIES, M. D.



